

1 WHAT IS CLAIMED IS:

2 1. A diagnostic apparatus of a valve timing control system
3 for variably controlling a valve timing by adjusting a rotational
4 phase between a crankshaft and a cam shaft of an engine, comprising:

5 means for detecting a fluctuation of engine speeds of
6 said engine following a change of engine operating conditions
7 and for calculating a diagnosis value based on said fluctuation;
8 and

9 means for comparing said diagnosis value with a
10 threshold value and for judging that a failure occurs in said
11 valve timing control system in case where said diagnosis value
12 exceeds said threshold value.

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14 2. The diagnostic apparatus according to claim 1, wherein
15 said diagnosis value is an integral value of said fluctuations
16 of said engine speeds.

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18 3. A diagnostic apparatus of a valve timing control system
19 for variably controlling a valve timing by adjusting a rotational
20 phase between a crankshaft and a cam shaft of an engine, comprising:

21 means for detecting a fluctuation of engine speeds
22 following a change of engine operating conditions and for
23 calculating an elapsed time until said fluctuation converges;
24 and

25 means for judging that a failure occurs in said valve

1 timing control system in case where said elapsed time exceeds
2 a preestablished time.

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